Cambridge Assessment International Education

Mathematics

Stage 8

Paper 1

2024

Cambridge Lower Secondary Progression Test

Mark Scheme

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3142_01_MS_8RP
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Question	Answer	Marks	Part Marks	Guidance
1	circumference	**1**		Accept any clear indication.
2	78	**1**		
3	*A*	**1**		Accept any clear indication.
4	*d* and *e* (alternate) *a* and *b* (corresponding) *b* and c (vertically opposite)	**2**	Award 1 mark for **two** correct pairs of angles.	Accept in either order within each pair. For alternate, also accept *a* and *c*.
5	1 64 121	**3**	Award 1 mark for each correct number **or** if 0 scored, for 2^6 **and** 11^2 seen.	
6	26 (cm^2)	**1**		
7	13	**1**		
8	96 tiles	**1**		Accept any clear indication.
9	Mike gets $\frac{2}{7}$ of the money.	**1**		Accept any clear indication.
10	103(°)	**1**		
11(a)	8	**1**		
11(b)	$6n - 4$ or equivalent	**2**	Award 1 mark for $6n + c$ or $kn - 4$ where $k \neq 0$	Accept unsimplified for 2 marks, e.g. $2 + 6(n - 1)$
12	parallelograms	**1**		Accept any clear indication.

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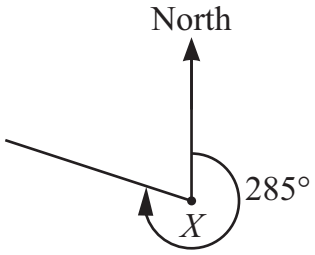
Question	Answer	Marks	Part Marks	Guidance
13(a)	Ticks Oliver is **not** correct **and** A correct explanation, e.g. He has not used the correct order of operations.	**1**		Accept any equivalent explanation, e.g. He has not used BIDMAS. Accept correct working/answer shown instead of an explanation. Incorrect work/reason (even if with something correct) = 0 marks for the question.
13(b)	[±]10	**2**	Award 1 mark for $9 \times 8 + 28$ or better.	Or better, e.g. 100, $\sqrt{9 \times 8 + 28}$, $\sqrt{72 + 28}$
14	A correct bearing of 285° drawn.  	**1**		Tolerance ±2°. Accept without 285° indicated.

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Question	Answer	Marks	Part Marks	Guidance
15	$1\frac{5}{6}$ correct answer only	**3**	Award 2 marks for an equivalent fraction, not a mixed number or in simplest form, e.g. $\frac{11}{6}$, $\frac{22}{12}$, $1\frac{10}{12}$ **or** Award 1 mark for $[5]\frac{7}{12} - [3]\frac{9}{12}$ **or** $4\frac{19}{12} - 3\frac{9}{12}$ **or** $\frac{67}{12} - \frac{45}{12}$	For 1 mark, accept equivalent fractions with a common denominator, e.g. $[5]\frac{28}{48} - [3]\frac{36}{48}$ For 1 mark, accept other equivalent methods, e.g. $2\frac{7}{12} - \frac{2}{12}$, $2 - \frac{2}{12}$
16	$A = (-2, \mathbf{-1})$ $B = (\mathbf{4}, 7)$	**2**	Award 1 mark for each correct answer.	
17	39.3	**2**	Award 1 mark for 1 kilometre = $\frac{5}{8}$ mile or 1 mile =1.6 kilometre or equivalent seen or implied.	Implied by answer 35
18	28 38	**2**	Award 1 mark for each correct answer.	

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Part Marks</th><th>Guidance</th></tr>
<tr><td>19</td><td>
<table>
<tr><th></th><th>Must be true</th><th>Could be true</th><th>Must be false</th></tr>
<tr><td>divisible by 4</td><td>✓</td><td></td><td></td></tr>
<tr><td>divisible by 5</td><td></td><td></td><td>✓</td></tr>
<tr><td>divisible by 8</td><td></td><td></td><td>✓</td></tr>
<tr><td>divisible by 9</td><td></td><td>✓</td><td></td></tr>
</table>
</td><td>2</td><td>Award 1 mark for two or three correct answers.</td><td>Accept any clear indication.</td></tr>
<tr><td>20</td><td>
<table>
<tr><td>x</td><td>(–2)</td><td>–1</td><td>(2)</td></tr>
<tr><td>y</td><td>–5</td><td>(–3)</td><td>3</td></tr>
</table>
and

Correct ruled graph extending at least between (–2, –5) and (2, 3).
</td><td>3</td><td>Award 2 marks for correctly completed table.

or

Award 1 mark for two correct values in the table or correctly plotting their three coordinates.</td><td></td></tr>
<tr><td>21</td><td>A correct demonstration, e.g.
• Lists factors of 36 and 60 to 12
• Common prime factors are $2 \times 2 \times 3 \neq 6$
• $36 \div 6 = 12$ and $60 \div 6$ is 10
10 and 12 have a common factor of 2</td><td>1</td><td></td><td>Accept ‘The correct HCF is 12’</td></tr>
<tr><td>22</td><td>Two angles with a sum of 180°</td><td>1</td><td></td><td>Accept if x is acute and y is obtuse.
Do not accept 90° for either angle.</td></tr>
</table>

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Question	Answer	Marks	Part Marks	Guidance
23	$6x(2x + 3 – 5y)$	**2**	Award 1 mark for partially factorised expression, e.g. $2x(6x + 9 – 15y)$, $3x(4x + 6 – 10y)$, $6(2x^2 + 3x – 5xy)$, $2(6x^2 + 9x – 15xy)$, $3(4x^2 + 6x – 10xy)$, $x(12x + 18 – 30y)$ **or** for fully factorised expression with **two** out of three correct terms inside the brackets.	
24	5 **and** 2 **and** 2	**2**	Award 1 mark for **two** correct powers **or** for [48 =] 2 × 2 × 2 × 2 × 3 **or** for [150 =] 2 × 3 × 5 × 5 **or** for [7200 =] 2 × 2 × 2 × 2 × 2 × 3 × 3 × 5 × 5	Powers must be in the correct order. For 1 mark, accept as e.g. factor trees, repeated division, listing.

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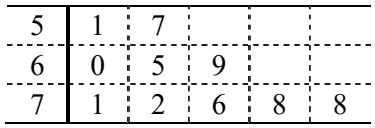
Question	Answer	Marks	Part Marks	Guidance
25(a)	 Key: 5|1 represents 5.1 (cm)	**3**	Award 2 marks for • fully correct diagram but no/incorrect key • correct key with **two** fully correct rows • correct key with complete unordered diagram. **or** Award 1 mark for • **two** fully correct rows • a correct key • complete unordered diagram with no/incorrect key.	Key does not have to use values 5 and 1
25(b)	A correct comparative statement of the medians including statistics, e.g. On average the freshwater fish are 7(cm) long which is shorter (than the saltwater fish) or equivalent. **and** A correct comparative statement of the ranges including statistics, e.g. The saltwater fish vary more in length (than the freshwater fish) as freshwater fish have a range of 2.7(cm) or equivalent.	**4**	Award 1 mark for On average, freshwater fish are shorter or equivalent **and** Award 1 mark for Median (of freshwater fish) = 7(cm). **and** Award 1 mark for The saltwater fish vary more in length or equivalent **and** Award 1 mark for Range (of freshwater fish) is 2.7(cm).	Or equivalent, e.g. • On average the freshwater fish are 1.4 (cm) shorter. • The median for freshwater fish is 7(cm) which is shorter. **and** • The range of freshwater fish is 2.7(cm). Their lengths are more consistent. Do **not** accept comparisons without context, e.g. The saltwater fish have a greater range than the freshwater fish. For the comparative statements **only**, accept follow through for *their* median and *their* range in part **(a)**.

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Question	Answer	Marks	Part Marks	Guidance
26	(A =) (7, 4) (B =) (7, 9)	**2**	Award 1 mark for each correct pair of coordinates.	

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